REMARKS/ARGUMENTS

Favorable consideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1-22 are presently pending in this application, Claims 1, 2, 5-16 having been amended, and Claims 17-22 having been newly added by the present amendment.

In the outstanding Office Action, Claims 2, 4 and 5-16 were rejected under 35 U.S.C. §112, second paragraph, for being indefinite; Claims 1-3 were rejected under 35 U.S.C. §102(b) as being anticipated by Glass (U.S. Patent 6,010,964); Claims 4-7 were rejected under 35 U.S.C. §103(a) as being unpatentable over Glass; and Claims 1-7 were rejected under 35 U.S.C. §103(a) as being unpatentable over Applicants' Admitted Prior Art (AAPA) in view of Glass. However, Claims 8-16 were indicated as including allowable subject matter.

First, Applicants acknowledge with appreciation the indication that Claims 8-16 include allowable subject matter. However, Claims 8-16 are presently maintained in dependent form, because Applicants believe that Claim 1 as currently amended includes allowable subject matter.

Applicants further acknowledge with appreciation the courtesy of the personal interview granted to Applicants' attorney on November 4, 2003. During the interview, the outstanding issues were discussed and arguments in support of the claims' patentability were presented. In particular, it was submitted during the interview that neither Applicants' Figure 12, i.e., the alleged admitted prior art, nor Glass teaches an electrode device which applies processing pressure to the abrasive particles on the workpiece and has a plurality of electrodes where the electrodes collect and arrange the abrasive particles by a Coulomb force

produced by application of an alternating-current voltage to the electrode without application of the alternating-current voltage to the workpiece.

Based on the discussions held during the interview, Claim 1 has been amended, and Claims 17-22 have been added herein. The claim amendment is believed to find clear support in the claims, specification, and drawings as originally filed.[1] Also, Claims 17-22 are believed to be supported similar to original Claims 1-3, 5, 8 and 9. Hence, no new matter is believed to be added thereby.

Also, with regard to the rejection under 35 U.S.C. §112, second paragraph, Claims 2 and 5-16 have been amended to clarify the subject matter recited therein. Thus, Claims 2 and 5-16 are believed to be in compliance with the requirements of the statute.

Briefly recapitulating, amended Claim 1 of the present invention is directed to a polishing apparatus for polishing a workpiece by utilizing a fluid including abrasive particles having a dielectric property, and the polishing apparatus includes an electrode configured to apply processing pressure to the abrasive particles on the workpiece and having a plurality of electrode elements configured to collect and arrange the abrasive particles by a Coulomb force produced by application of an alternating-current voltage to the electrode without application of the alternating-current voltage to the workpiece, and a driving device for driving the electrode. By providing such an electrode, the abrasive particles are pressed against the workpiece while being collected as a better cluster, thereby achieving more effective polishing.[2] Additionally, because the polishing apparatus as recited in Claim 1 does not require the application of the alternating-current voltage to the workpiece, non-conductive

[1] See, for example, Specification, page 7, lines 27-32, and page 10, lines 11-15.
[2] See id., page 7, lines 27-32, and page 10, lines 15-27.

workpieces such as ceramic and glass workpieces can be polished,[3] and there is significantly less discharge damage on the workpiece.[4]

Glass discloses a surface treatment system. Nevertheless, Glass does not teach "an electrode configured to apply processing pressure to the abrasive particles on the workpiece and having a plurality of electrode elements configured to collect and arrange the abrasive particles by a Coulomb force produced by application of an alternating-current voltage to the electrode without application of the alternating-current voltage to the workpiece" as recited in Claim 1 as amended. On the other hand, Glass discloses a surface treatment system in which an electrical potential difference is applied across the interface 17 formed between the wafer 14 and the liquid 20 to alter the wettability of the liquid 20 contacting the wafer 14.[5] However, Glass is not believed to disclose or even suggest a configuration of electrodes which would collect abrasive particles by a Coulomb force without application of the alternating-current voltage to the workpiece. Therefore, the structure recited in Claim 1 is believed to be patentably distinguishable from Glass.

Applicants' Fig. 12 discloses a polishing apparatus. However, Fig. 12 fails to teach "an electrode configured to apply processing pressure to the abrasive particles on the workpiece and having a plurality of electrode elements configured to collect and arrange the abrasive particles by a Coulomb force produced by application of an alternating-current voltage to the electrode without application of the alternating-current voltage to the workpiece" as recited in Claim 1 as amended. On the other hand, Fig. 12 discloses a polishing apparatus in which an alternating-current voltage is applied between the rotary electrode 1 and the conductive specimen 3. As such, this polishing apparatus is not desirable

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[3] See id., page 9, lines 24-30.
[4] See id., page 10, lines 25-27.
[5] See Glass, Figs. 1B and 3, and column 3, lines 19-29.

for polishing workpieces having insulating materials due to the risk of the workpiece being damaged by an electrical discharge.[6] Therefore, the structure recited in Claim 1 is believed to be patentably distinguishable from Fig. 12.

Because none of Glass and Fig. 12 discloses the electrode as recited in Claim 1 as amended, even the combined teachings of these cited references are not believed to render the polishing apparatus recited in Claim 1 obvious.

Likewise, independent Claim 17 includes subject matter substantially similar to what is recited in Claim 1 to the extent discussed above. Thus, Claim 17 is also distinguishable from Glass and Fig. 12.

For the foregoing reasons, Claims 1 and 17 are believed to be allowable. Furthermore, since Claims 2-16 and 18-22 depend ultimately from either Claim 1 or 17, substantially the same arguments set forth above also apply to these dependent claims. Hence, Claims 2-16 and 18-22 are believed to be allowable as well.

[6] See Specification, page 3, line 20 to page 4, line 2.

In view of the amendments and discussions presented above, Applicants respectfully submit that the present application is in condition for allowance, and an early action favorable to that effect is earnestly solicited.

Respectfully submitted,

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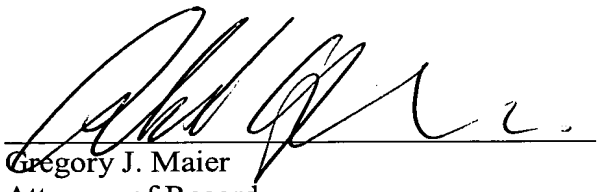

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